A REDUCTION CHECKSUM GENERATOR
AND A METHOD OF CALCULATION THEREOF

ABSTRACT OF THE DISCLOSURE

The present invention provides a reduction checksum generator for calculating a checksum value for a block of data. In one embodiment, the reduction checksum generator includes a reduction unit having a plurality of reduction stages and configured to pipeline a plurality of segments of the block of data through the plurality of reductions stages to reduce the plurality of segments to at least two segments. The reduction checksum generator also includes a checksum unit configured to generate a one's complement sum of the at least two segments and invert the one's complement sum to produce the checksum value. In addition, a method of calculating checksum value using reduction for a block of data and a parallel reduction checksum generator are also disclosed.